

- P/H*
- (a) providing a composition comprising water soluble hydrophobically-modified polymers having a linear hydrophilic backbone with hydrophobic side groups along said backbone and functional groups for cross-linking said polymers;
- (b) allowing said composition to contact said formation; and
- (c) cross-linking said hydrophobically-modified polymers of the composition to form a cross-linked gel selectively reducing said subterranean aqueous fluid flow.

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31. (new) The method of claim 10, wherein the polymers comprise 0.5 to 5 mole per cent of hydrophobic side groups.

B/Cm
32. (new) The method of claim 10, wherein the functional groups for cross-linking form part of the hydrophilic backbone of the polymer.

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33. (new) The method of claim 10, wherein the functional groups for cross-linking form part of the hydrophobic side groups.

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34. (new) The method of claim 10, wherein the polymers have a molecular weight of 50,000 or more.

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35. (new) The method of claim 10, wherein the hydrophilic backbone of the hydrophobically modified polymers comprises poly(acrylic acid), poly(vinylpyridine), hydroxyethylcellulose or poly(ethylene oxide).

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36. (new) The method of claim 10, wherein the hydrophobically modified polymers comprise poly(sodium 4-styrenesulphonate) or poly(vinylpyridine).

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37. (new) The method of claim 10, wherein the hydrophobically-modified polymers comprise poly(acrylamide).

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38. (new) The method of claim 10, wherein the hydrophobically-modified polymers comprise n-

nonyl acrylate.

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(new) The method of claim 10, wherein the hydrophobically-modified polymers comprise N-decylamide.

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(new) The method of claim 10, wherein the composition further comprises a chemical cross-linking agent.

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(new) The method of claim 20, wherein the chemical cross-linking agent is organic.

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(new) The method of claim 20, wherein the chemical cross-linking agent comprises formaldehyde or phenol.

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(new) The method of claim 20, wherein the chemical cross-linking agent is an aldehyde or an aldehyde derivative comprising at least 5 carbon atoms.

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(new) The method of claim 23, wherein the chemical cross-linking agent is hexanal or heptanal.

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(new) The method of claim 10, wherein the gel is stable.

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(new) The method of claim 10, wherein the hydrophobically-modified polymers are prevented from cross-linking in contact with hydrocarbons.

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(new) The method of claim 26, wherein the cross-linking agent is removed from the composition by solubilization in the contacting hydrocarbons.

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(new) The method of claim 26, wherein the composition partly solubilizes hydrocarbons.

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(new) The method of claim 10, wherein said hydrophobic side groups are randomly located